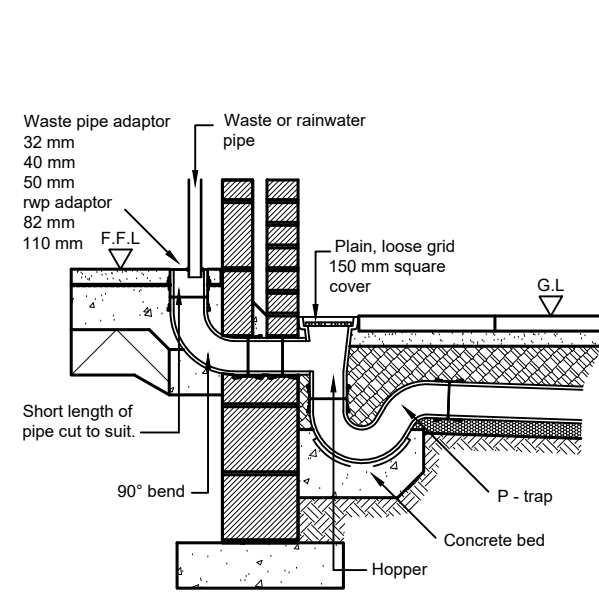
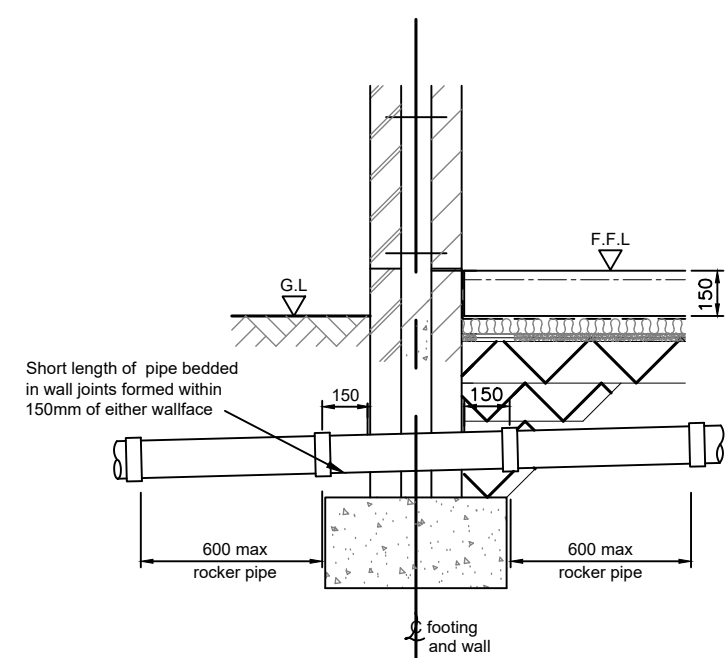
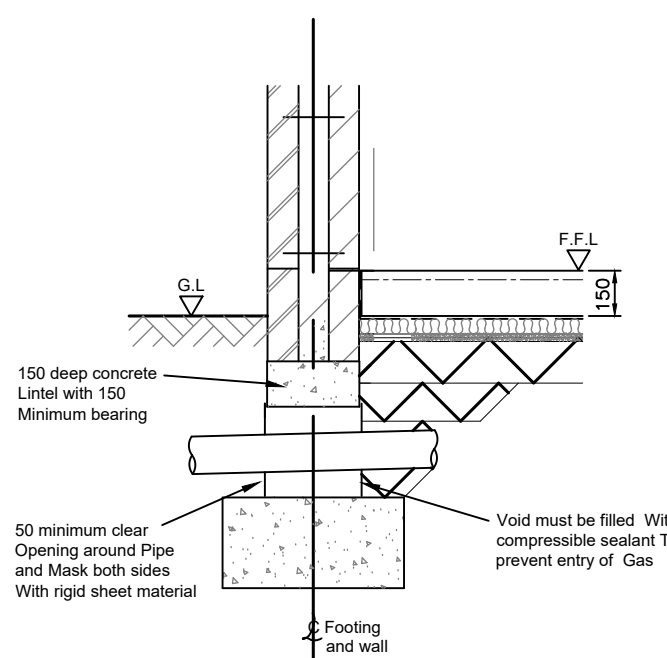




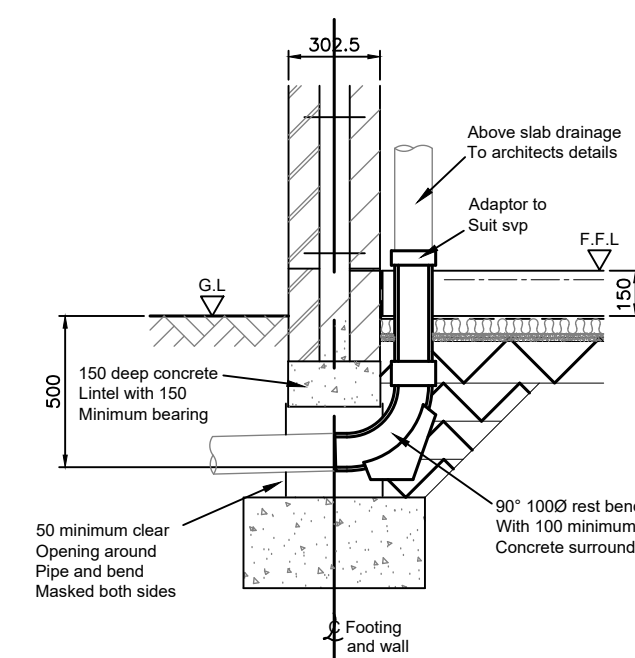
Back Inlet Gully Connection Detail



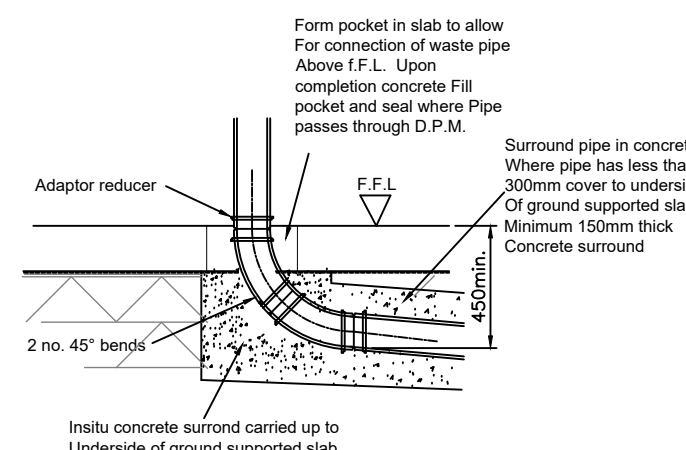
Typical Pipe Through Wall Detail



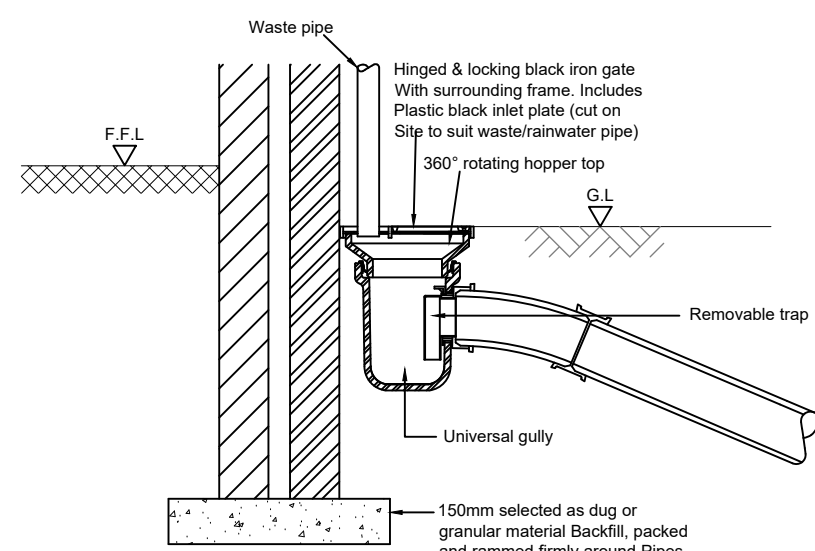
Arch or Lintelled Opening Through Wall



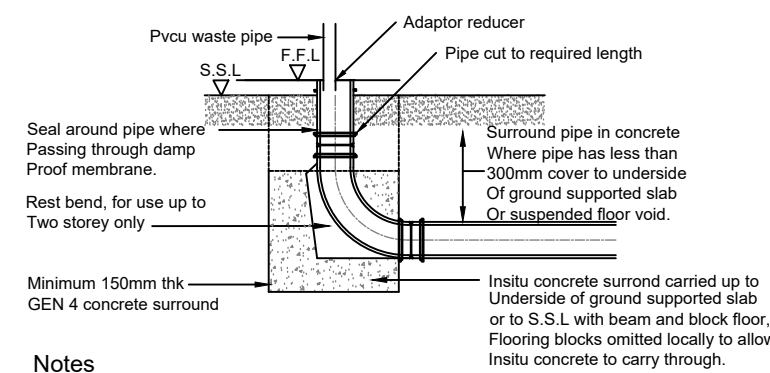
Typical SVP Pipe Detail



Typical Drain Connection



Direct Rainwater Connection

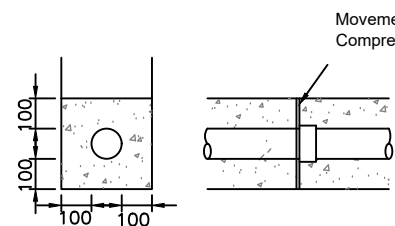


## Notes

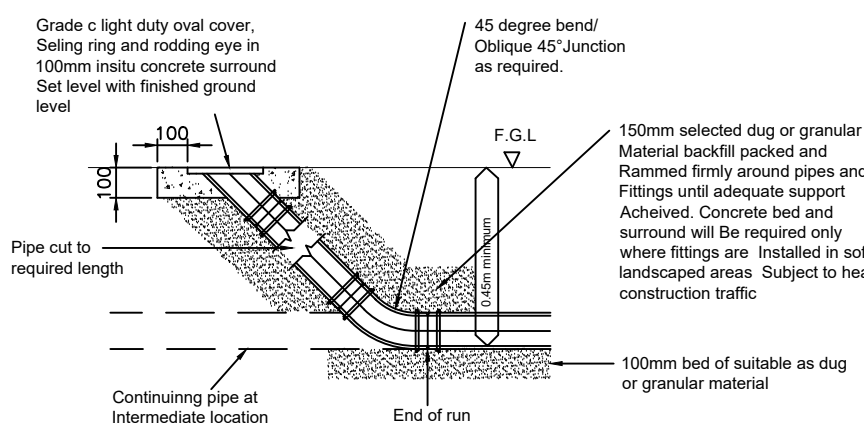
1. Insitu concrete generally to be grade 20.
2. Where sulphates present, consulting engineer to confirm concrete and mortar specification.
3. All insitu concrete to be thoroughly compacted.
4. For type and size of pipes and fittings refer to Drainage layout and schedule.
5. Drainage pipes and fittings to be heworth vitrified clay and PVCU, or other equal and approved.

## Notes

A drain may run under a building if at least 100mm of granular or other flexible filling is provided round the pipe. On sites where excessive subsidence is possible additional flexible joints may be advisable or other solutions such as suspending drainage particularly where the pipe is adjacent to structures or where soil conditions change in the course of the pipe run. Where the crown of the pipe is within 300mm of the underside of the slab, special protection should be provided (see detail).



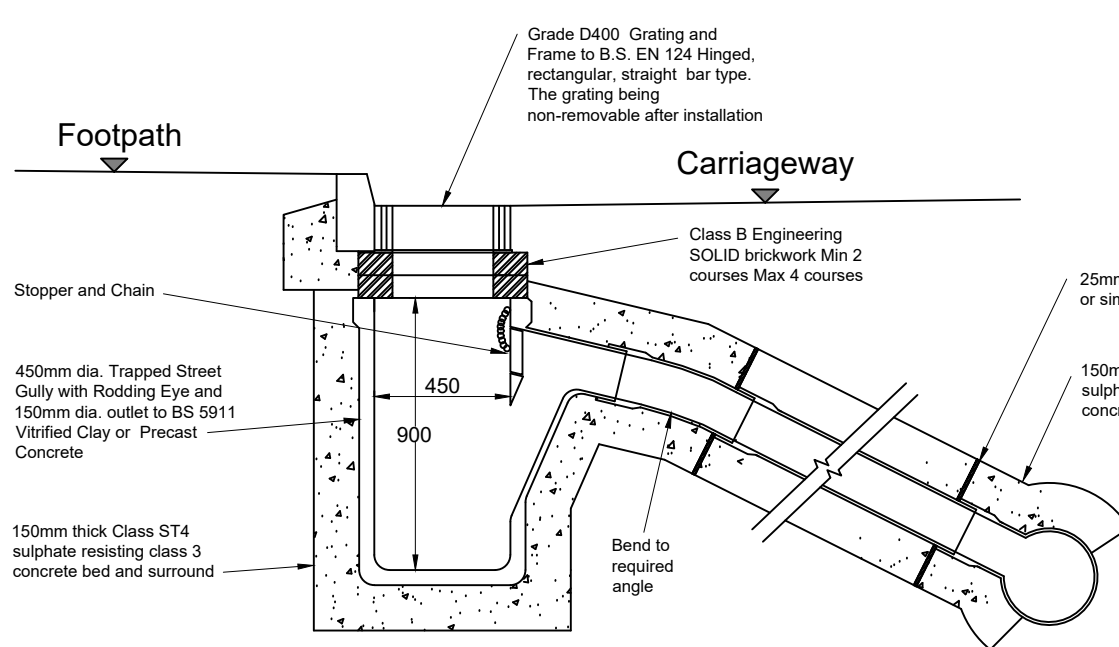
Joints For Concrete Encased Pipes



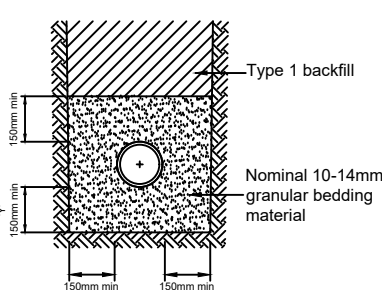
## Notes

1. Insitu concrete generally to be grade 20.
2. Where sulphates present, consulting engineer to confirm concrete and mortar specification.
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Rodding Eye

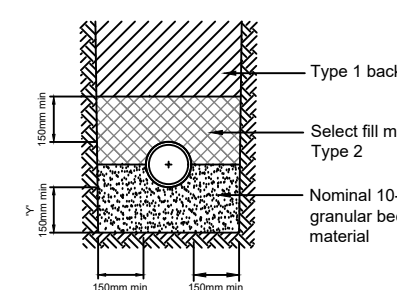


Highway Gully



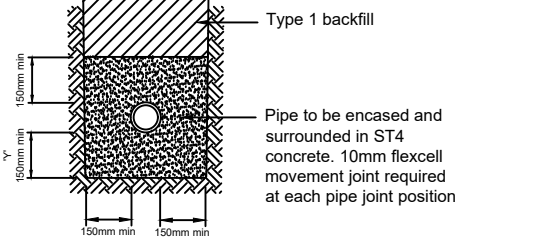
Bedding Class S

to Be Used Under Road



Bedding Class B

to Be Used In Soft Landscaped Areas



Bedding Class Z

to Be Used Where Cover &lt; 0.6m To Drain / Sewer Landscaped Areas (Clayware)

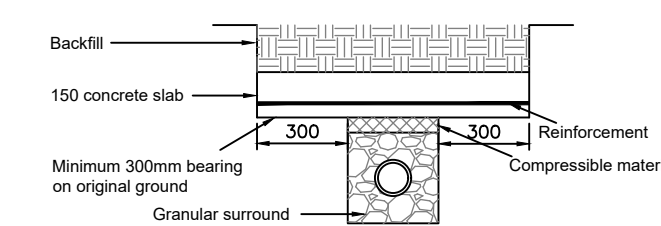
To Be Used Where Cover &lt; 1.2m To Drain / Sewer Under Road (Clayware)

| Bedding Class dimensions |           |           |       |                        |    |
|--------------------------|-----------|-----------|-------|------------------------|----|
| Pipe<br>Diam             | Y min     |           | Z min | Max<br>Trench<br>Width | L  |
|                          | Y1<br>Min | Y2<br>Min |       |                        |    |
| 150                      | 100       | 200       | 100   | 750                    | 18 |
| 200                      | 100       | 200       | 100   | 800                    |    |
| 225                      | 100       | 200       | 100   | 825                    |    |
| 250                      | 100       | 200       | 100   | 850                    |    |
| 300                      | 100       | 200       | 100   | 925                    |    |
| 350                      | 100       | 200       | 100   | 975                    | 36 |
| 375                      | 100       | 200       | 100   | 1000                   |    |
| 400                      | 150       | 200       | 150   | 1025                   |    |
| 450                      | 150       | 200       | 150   | 1100                   |    |
| 500                      | 150       | 200       | 150   | 1150                   |    |
| 525                      | 150       | 250       | 150   | 1175                   |    |
| 600                      | 150       | 250       | 150   | 1250                   |    |
| 675                      | 150       | 250       | 225   | 1325                   |    |

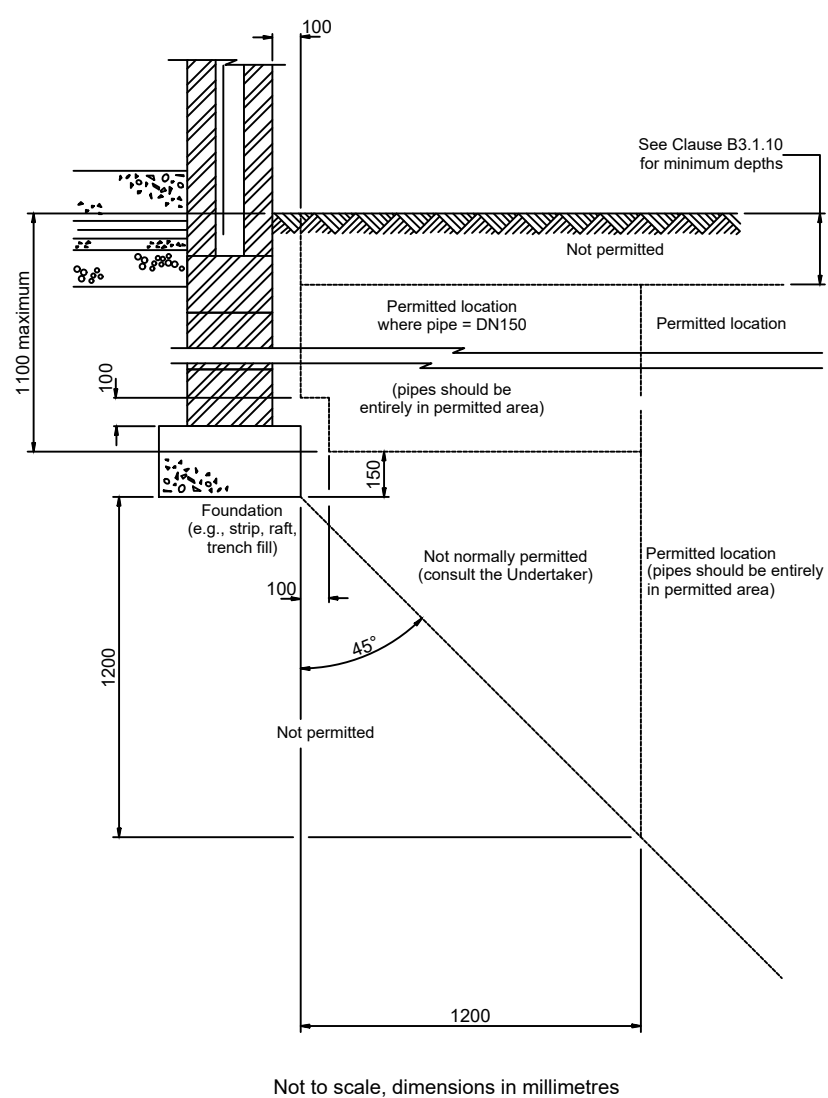
Y1 shall normally be used except in rock or uneven trench bottom.

Z is the dimension of concrete bed/surround.

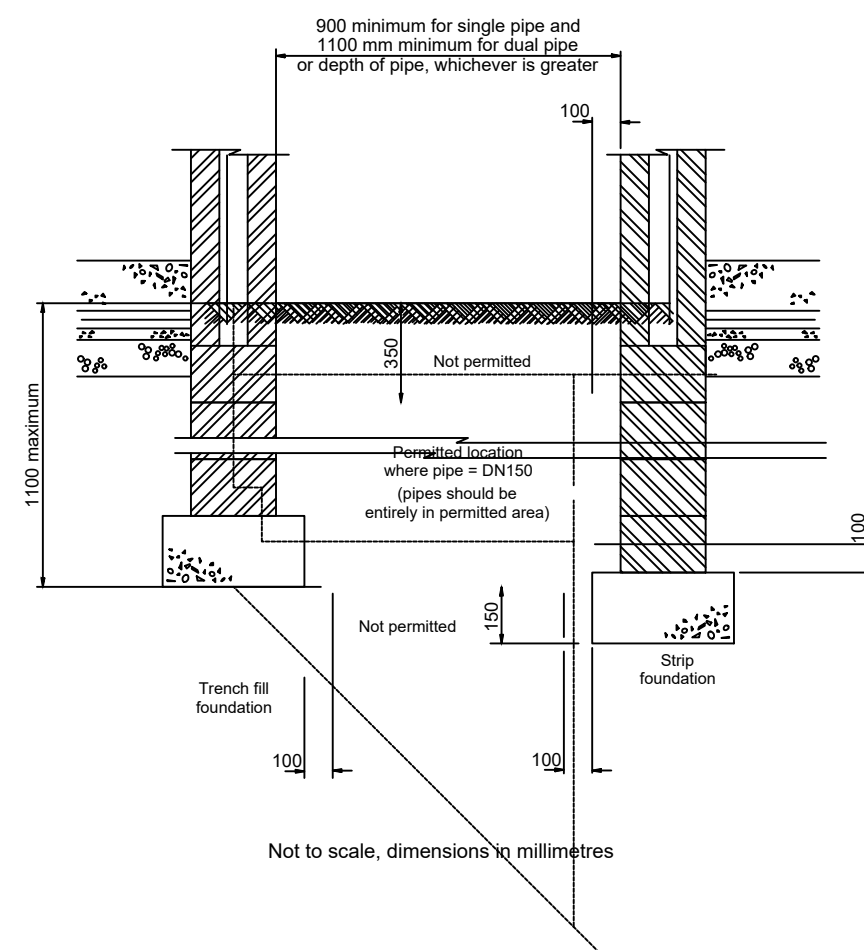
L is the thickness of compressible filler when concrete bed/surround is used.



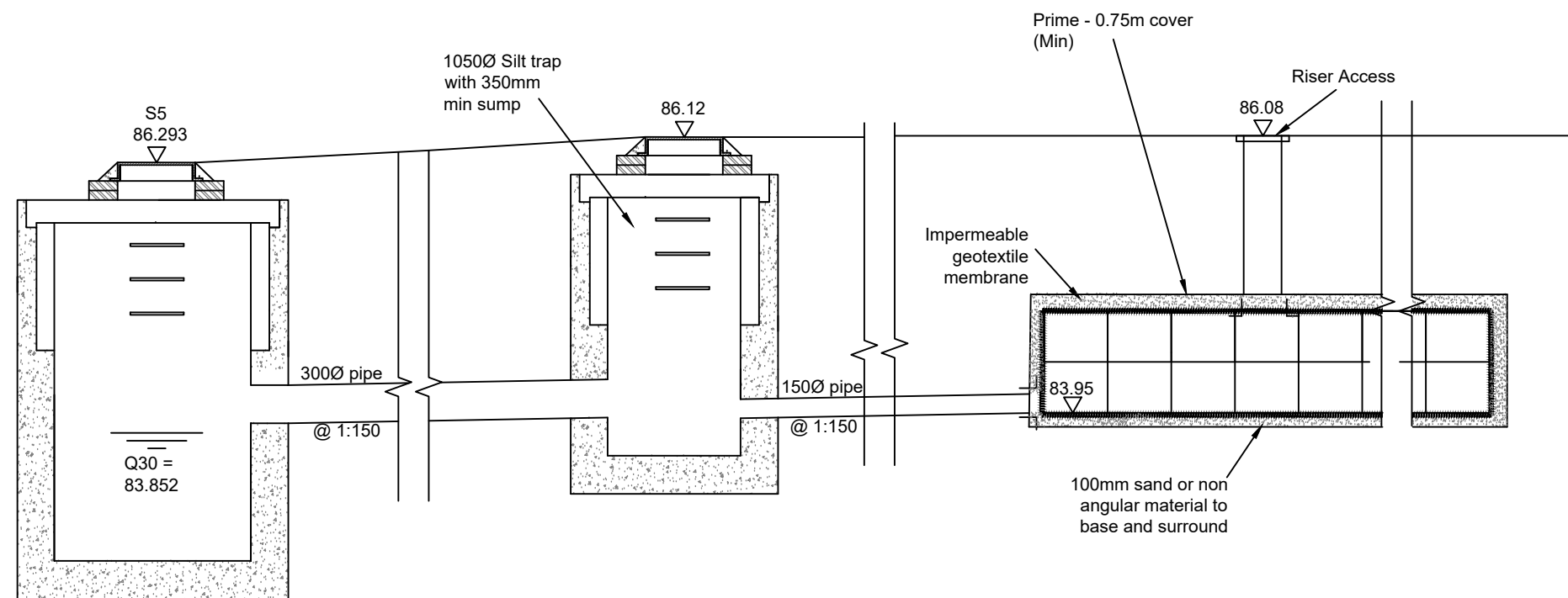
Protection for Pipes laid at Shallow Depths

FIGURE B.1  
PERMITTED LOCATION OF SEWERS AND LATERAL DRAINS IN PROXIMITY TO BUILDINGS

Not to scale, dimensions in millimetres

FIGURE B.2  
ADDITIONAL DETAIL - PERMITTED LOCATION OF SEWERS AND LATERAL DRAINS BETWEEN BUILDINGS (where Figure B.1 is not applicable only)

Not to scale, dimensions in millimetres



Typical Geocellular Tank System Section (NTS)

Aquacell Prime or similar approved with riser access for inspections and future maintenance

## NOTES

1. All dimensions are in millimetres unless otherwise shown.
2. All adoptable drainage shall be constructed in accordance with 'Sewers for Adoption' 7th Edition and Welsh Water Details and Guidelines.
3. All private drainage works are to comply fully with Part H of the Building Regulations.
4. All existing invert levels to be checked by the contractor at the start of works and any other discrepancies notified to the Engineer prior to commencing works. All levels are based on topographical survey information provided by others.
5. All materials to bear the relevant B.S. Kitemark and comply fully with the specifications. All concrete & concrete products must use Sulphate resistant cement (unless the site investigation report proves that sulphate attack from soils and groundwater will not occur to withstand a class 3 condition).
6. All opening notices etc. as required under Highways Acts etc. are to be obtained prior to commencement of works. All works are to be inspected by L.A., NHBC or United Utilities as applicable.
7. Where "Ultra Rib" UPVC pipes (or similar approved) are used in adoptable drainage they shall still be handled and laid in accordance with the specification and guidance issued by the High Performance Pipe Association. A Class S Bed and surround must be used for such pipes.
8. Trench backfill in highways to within 1m of highway shall, as directed by the Highway Authority be a suitable granular material all in accordance with Sewers for Adoption.
9. Cover loadings shall be as detailed on the Manhole Schedule.
10. Drain trenches should not be excavated lower than the foundations of any building nearby unless either:
  - a) The trench is within 1m of the foundation, the trench is filled with concrete up to the lowest level of the foundation, or
  - b) Where the trench is further than 1m from the building, the trench is filled with concrete to a level below the lowest level for the building equal to the distance from the build, less 150mm.

The minimum depth of cover to the crown of gravity pipes without protection should be as follows (as outlined in SFA 7th Figure B.3.1.10:

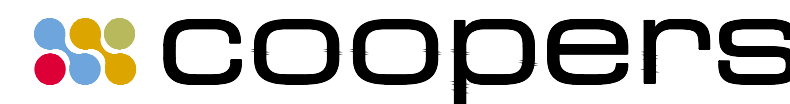
- a) domestic gardens and pathway with any possibility of vehicular access, 0.35m;
- b) domestic driveways, parking areas and yards with height restrictions to prevent entry by vehicles with a gross vehicle weight in excess of 7.5 tonnes, 0.5m;
- c) domestic driveways, parking areas and narrow streets without footways (e.g., mews developments) with limited access for vehicles with a gross vehicle weight in excess of 7.5 tonnes, 0.9m;
- d) agricultural land and public open space, 0.9m;
- e) other highways and parking areas with unrestricted access to vehicles with a gross vehicle weight in excess of 7.5 tonnes, 1.2m.

## DRAWING LIST

- |           |                                 |
|-----------|---------------------------------|
| 7387 / 01 | Proposed Drainage Layout        |
| 7387 / 02 | Highway Layout & Setting Out    |
| 7387 / 03 | Drainage Construction Details   |
| 7387 / 04 | Highway Construction Details    |
| 7387 / 05 | External Works Layout           |
| 7387 / 06 | Highway & Drainage Longsections |
| 7387 / 07 | S38 Agreement Plan              |
| 7387 / 08 | Manhole Schedule                |
| 7387 / 09 | Plot Manhole Schedules          |
| 7387 / 10 | Surface Water Catchment Areas   |
| 7387 / 11 | Flow Control Details            |
| 7387 / 12 | Manhole Connection Plan         |

## APPROVAL

|      |          |                             |    |       |
|------|----------|-----------------------------|----|-------|
| A    | 18.08.20 | Updated to suit WW comments | LW | AJ    |
| Rev. | Date     | Revision                    | By | Appd. |



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Sandpiper Court  
Chester Business Park  
Chester  
CH4 9QU

Client

CASTLEMEAD GROUP LTD.

Project

JACQUES WAY,  
WREXHAM

Title

Drainage Construction Details  
Sheet 2 of 2

DRAWING NUMBER

7387 / 03 - 2

SCALE at A1

NTS

DATE

DEC 19

DRAWN

LW

CHECKED

AJ

REVISION

A